DATE 31 Mar 05

USAMMDA INFORMATION PAPER

PRODUCT: TAFENOQUINE MALARIA CHEMOPROPHYLACTIC

DESCRIPTION: Tafenoquine is an 8-aminoquinoline being studied as prophylaxis against malaria. Malaria is a leading cause of morbidity and mortality in many developing countries and continues to be a disease of military importance because of its potential to incapacitate troops deployed to regions of the world where malaria is endemic. The World Health Organization estimates that between 300 and 500 million cases of malaria occur every year worldwide and that malaria causes between 1.5 and 2.7 million deaths annually. The parasite that causes malaria is transmitted to humans by mosquito bites and matures in the human liver. It is then released into the bloodstream and attacks red blood cells. Some types of malaria circulate only in the blood, whereas other types both circulate in the blood and maintain a dormant liver stage. For those types that maintain a liver stage, the parasite can be released into the bloodstream up to three years or more after the initial infection, causing a relapse. Various drugs are used in prophylaxis against malaria. However, the malaria parasite is developing resistance to the current antimalarial prophylactic drugs, and resistance is now widespread in Africa and Asia. Studies suggest that tafenoquine suppresses both the liver and blood stages of the malaria parasite and may also block transmission from individuals already infected. This could help reduce the overall risk of infection in endemic regions and prove useful as a component of malaria eradication efforts directed against specific areas. A Phase 2 clinical field trial using short-term dosing of tafenoquine for treatment of *P. vivax* malaria in Thailand began in 4QFY03.

PROGRAM RELEVANCE to the ARMY: This product supports both the core mission of the Army and the Army Transformation. Of the Army's core competencies, this product supports: “Shape the Security Environment,” “Forcible Entry Operations,” “Sustained Land Dominance” and “Support Civil Authorities” by protecting U.S. Forces against infection with malaria. Tafenoquine will enhance the survivability, sustainability and preserve the fighting strength of U.S. Forces in regions of the world where the disease is endemic. In addition, this product supports Future Operational Capability MD 97-007 (Preventive Medicine).

ISSUES/ACTIONS:

- The tafenoquine IND remains active and no additional safety issues in animal studies or in follow-up of volunteers in previous or on-going human trials have been identified.
- The planned Phase 1 placebo-controlled clinical trial to be conducted in normal volunteers who will be intensively monitored in a prospective fashion to determine what adverse effects tafenoquine has on renal function and visual function, including night vision, commenced in 4QFY03 at the Uniformed Services University of the Health Services in Bethesda, Maryland, and continues to enroll subjects. A second study site for this trial in the United Kingdom began enrolling volunteers in August 2004.
- A Phase 2 clinical trial using short-term dosing of tafenoquine for treatment of *P. vivax* malaria began in 4QFY03 and completed enrollment in 1QFY05. The study blind has been broken and the data are currently being analyzed.

BPL #: 153
DA PROJECT/TASK: Infectious Diseases
PE/PROJ: 643807.849QC
MAMP RANK:3/36
ARMY ORD: Antimalarial Drug (AMD) WR 238,605, Approved Aug 1995, CARDS #01402

SCHEDULE:

MS I	1QFY91
MS II	4QFY00
MS FRP	4QFY07

For additional information contact: Pharmaceutical System Division, DSN 343-2051, Comm. 301-619-2051